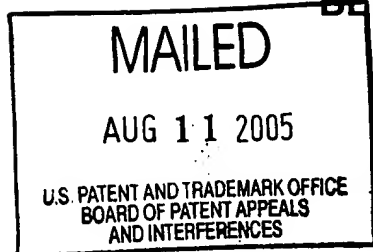


The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES



Ex parte TOSHIO KOBAYASHI, MIOU SUZUKI,
and NAOHITO TAKEUCHI

Appeal No. 2005-1477
Application No. 09/220,223

ON BRIEF

Before GARRIS, PAK, and TIMM, Administrative Patent Judges.
PAK, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1 through 3 and 6 through 12, which are all of the claims pending in the above-identified application.

APPEALED SUBJECT MATTER

Claim 1 is representative of the subject matter on appeal and reads as follows:

1. A nonwoven fabric containing thermoplastic microfibers, said nonwoven fabric comprising:

thermoplastic synthetic fibers being about 5 to about 30 mn long and as fine as about 0.1 to 0.8d, in about 90 to 10% by weight, mixed and mechanically entangled with pulp fibers about 2 to 7 mn long, in about 10 to 90% by weight, so as to have a basis weight of about 10 to 80 g/m² as a whole,

said fabric being in the form of a sheet having a plurality of protuberances that project from a surface of the sheet and said thermoplastic synthetic fibers being non-fused throughout said fabric.

REFERENCE

The prior art references relied upon by the examiner in support of the Section 103 rejection before us are:

Anderson et al. (Anderson)	4,100,324	Jul. 11, 1978
Radwanski et al. (Radwanski)	4,879,170	Nov. 7, 1989

REJECTION

The appealed claims stand rejected as follows:¹

1. Claims 1 through 3 and 6 through 12 under 35 U.S.C. § 112, first paragraph, as failing to provide written description for the subject matter presently claimed; and
2. Claims 1 through 3 and 6 through 12 under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Anderson and Radwanski.

¹ The appellants state that claims 1 through 3 and 6 through 12 stand or fall together. See the Brief, page 4. Therefore, for purposes of this appeal, we limit our consideration to claim 1.

OPINION

We have carefully reviewed the claims, specification and prior art, including all of the evidence and arguments advanced by both the examiner and the appellants in support of their respective positions. This review has led us to conclude that only the examiner's Section 103 rejection is well founded. Accordingly, we reverse the examiner's Section 112 rejection, but affirm the examiner's Section 103 rejection. Our reasons for these determinations follow.

WRITTEN DESCRIPTION

As the court stated in *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983):

The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, **rather than the presence or absence of literal support in the specification for the claimed language**. (Emphasis added)(citations omitted)

Precisely how close the original description must be to the presently claimed subject matter to comply with the written description requirement must be determined on a case-by-case basis. *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1561, 19 USPQ2d 1111, 1116 (Fed. Cir. 1991).

In the present case, there is no dispute that the negative limitation "said thermoplastic synthetic fibers being non-fused throughout said fabric" in claims 1 and 9

does not have literal support in the specification as originally filed.² Compare the Answer, page 3, with the Brief and the Reply Brief in their entirety. However, as acknowledged by the examiner (the Answer, page 4), the specification as originally filed describes forming a nonwoven fabric by using only a “hydroentangling” process, i.e., by mechanically entangling thermoplastic fibers together. See also the specification, pages 6, 7 and 10. Implicit in this disclosure is that the appellants had possession of the concept of forming a nonwoven fabric without fusing thermoplastic fibers. *See, e.g., In re Anerson*, 471 F.2d 1237, 1244, 176 USPQ 331, 336 (CCPA 1973); *Ex parte Parks*, 30 USPQ2d 1234, 1236-7 (Bd. Pat. App. Int. 1993). Thus, we concur with the appellants that the negative limitation in question does not violate the written description requirement of 35 U.S.C. § 112, first paragraph.

Accordingly, we reverse the examiner’s decision rejecting claims 1 through 3 and 6 through 12 under 35 U.S.C. § 112, first paragraph, as lacking written descriptive support in the original disclosure for the invention presently claimed.

² The examiner has rejected claims 1 through 3 and 6 through 12 under 35 U.S.C. § 112, first paragraph, as failing to provide written description in the disclosure as originally filed for the subject matter presently claimed. See the Answer, page 3. It appears to be the examiner’s position that the negative limitation “said thermoplastic synthetic fibers being non-fused throughout said fabric” recited in claims 1 and 9 is not supported by the specification as originally filed. See the Answer, pages 3 and 4.

OBVIOUSNESS

Under Section 103, the obviousness of an invention cannot be established by combining the teachings of the prior art references absent some teaching, suggestion or incentive supporting the combination. ***ACS Hospital Systems, Inc. v. Montefiore Hospital***, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). This does not mean that the cited prior art references must specifically suggest making the combination. ***B.F. Goodrich Co. V. Aircraft Braking Systems Corp.***, 72 F.3d 1577, 1582, 37 USPQ2d 1314, 1318 (Fed. Cir. 1996); ***In re Nilssen***, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988)). Rather, the test for obviousness is what the combined teachings of the prior art references would have suggested to those of ordinary skill in the art. ***In re Young***, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); ***In re Keller***, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). This test requires us to take into account not only the specific teachings of the prior art references, but also any inferences which one skilled in the art would reasonably be expected to draw therefrom. ***In re Preda***, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968).

In the present case, there is no dispute that Anderson teaches or would have suggested a nonwoven fabric containing thermoplastic synthetic microfibers having the claimed length and diameter “mixed and mechanically entangled” with pulp fibers having the claimed length in the claimed proportions so as to have the claimed weight basis. Compare the Answer, page 3, with the Brief and the Reply Brief in their entirety.

According to the examiner (the Answer, page 3), "Anderson differs from the claimed invention because Anderson forms the embossed areas via heat bonding...." It appears to be the examiner's position that Anderson does not teach the claimed limitation "said fabric being in the form of a sheet having a plurality of protuberances that project from a surface of the sheet and said thermoplastic synthetic fibers being non-fused throughout said fabric."

To remedy this deficiency, the examiner relies on the disclosure of Radwanski. See the Answer, page 3. The examiner finds (the Answer, pages 3-4), and the appellants do not dispute (the Brief and the Reply Brief in their entirety), that:

Radwanski ... teaches that nonwoven fabrics may be hydroentangled³ on a mesh screen, forming wire or aperture plate in order to form embossments or protuberances without changing the properties of absorbency, etc. of the fabric. See col. 6, line 64-col. 7, line 17; col. 14, line 4-41; col. 23, lines 29-50.

Referring to column 1, line 19 to column 2, line 12 and column 4, lines 18-28 of

Radwanski, the examiner further finds (the Answer, page 5), and the appellants do not dispute (the Brief and the Reply Brief in their entirety), that:

Radwanski details that while the nonwoven of Anderson can be formed into a fabric-like composite material having a variety of uses, the further bonding of the nonwoven either at elevated temperature or ultrasonically to form the fused regions results in a fabric which has inferior tactile and visual aesthetic properties and is thus not as desirable as a textile. Radwanski also teaches that the use of hydraulic entangling techniques rather than other bonding

³ Radwanski refers to it as a hydraulic entangling technique. See column 6, line 64.

methods such as thermal or chemical bonding results in improved properties such as elasticity and drape. See col. 6, line 64-col. 7, line 17.

Moreover, the appellants do not challenge the examiner's finding at page 3 of the final Office action dated October 8, 2002⁴ that:

Radwanski teaches that smooth or pattern surfaces can be formed depending on the type of support which is used. Therefore, Radwanski teaches forming embossment or protuberances....

Given the above undisputed teachings, we concur with the examiner that one of ordinary skill in the art would have been led to modify the nonwoven fabric of Anderson to have the claimed plurality of protuberances and the claimed non-fused thermoplastic fibers via the hydraulic entangling techniques described in Radwanski (as opposed to other thermal bonding methods such as those disclosed in Anderson), motivated by a reasonable expectation of successfully obtaining the advantages associated with the hydraulic entangling techniques.

The appellants appear to argue that Anderson teaches away from the claimed invention. See, e.g., the Brief, page 15. In support of this argument, the appellants refer to the teaching of Anderson, which is said to require thermal bonding to increase the strength of a nonwoven fabric. *Id.* We are not persuaded by this argument.

⁴ See the appellants' response at page 14.

As is apparent from column 6, lines 43-51, of Anderson, thermal bonding is not required in preparing Anderson's nonwoven fabric.⁵ Specifically, Anderson states (*Id.*) that:

The containment of the wood pulp fibers in the integrated fibrous matrix, and the other characteristics noted above, are attained **without any further processing or treatment of the airlaid web. However, if it is desired to improve the strength of the composite web 34, it maybe embossed either ultrasonically or at an elevated temperature so that the thermoplastic microfibers are flattened into a film-like structure in the embossed areas.** (Emphasis added.)

Moreover, as indicated *supra*, Radwanski teaches that the ultrasonic and thermal bonding techniques described in Anderson have drawbacks. See also Radwanski, column 1, line 31 to column 2, line 12. Radwanski then recommends hydraulic entangling techniques since they are seen as an improvement over thermal or chemical bonding techniques. See column 6, line 65 to column 7, line 17. Radwanski, for example, teaches that "use of hydraulic entangling easily permits dissimilar fibrous materials (e.g., materials that cannot be chemically or thermally bonded) to be used." See column 7, lines 13-17. Thus, not only is there no teaching in Anderson which would have led one of ordinary skill in the art away from the claimed invention, but the combined teachings of Anderson and Radwanski would also provide a strong incentive to arrive at the claimed invention.

⁵ In the event of further prosecution, the examiner is advised to determine whether Anderson alone teaches the claimed nonwoven fabric.

The appellants appear to argue that Radwanski does not teach and would not have suggested hydraulic entangling thermoplastic synthetic fibers with pulp fibers. See the Reply Brief, pages 3-8. In support of this argument, the appellants appear to assert that Radwanski defines hydraulically entangled coform fibers as hydraulically entangled codeposited fibers. *Id.* We do not agree.

As is apparent from column 6, lines 34- 47, of Radwanski, hydraulic entanglement techniques can be used to entangle or intertwine meltblown fibers, pulp fibers and/or stable fibers. Radwanski also states that the “use of hydraulic entangling easily permits dissimilar fibrous materials (e.g., materials that cannot be chemically or thermally bonded) to be used.” See column 7, lines 13-17. At columns 13 and 14, Radwanski teaches forming coform (airlaid) fibers by mechanically entangling, for example, meltblown microfibers with pulp fibers in the manner discussed in Anderson and then subjecting the resulting conform (airlaid) fibers to hydraulic entangling techniques. Thus, from our perspective, Anderson and Radwanski as a whole would have suggested hydraulic entangling, as opposed to thermal bonding, the mechanically entangled meltblown microfibers and pulp fibers taught in Anderson to arrive at the claimed invention.

Accordingly, we affirm the examiner's decision rejecting claims 1 through 3 and 6 through 12 under 35 U.S.C. § 103 as unpatentable over the combined teachings of Anderson and Radwanski.

CONCLUSION

In summary, we reverse the examiner's decision rejecting claims 1 through 3 and 6 through 12 under 35 U.S.C. § 112, first paragraph, but affirm the examiner's decision rejecting claims 1 through 3 and 6 through 12 under 35 U.S.C. § 103. It follows that the decision of the examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED


BRADLEY R. GARRIS
Administrative Patent Judge


CHUNG K. PAK
Administrative Patent Judge


CATHERINE TIMM
Administrative Patent Judge

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Appeal No. 2005-1477
Application No. 09/220,223

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